

**STATEMENT OF QUALIFICATIONS
MICHAEL T. BRETT**

MICHAEL T. BRETT

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ACADEMIC BACKGROUND

Ph.D.	Institute of Limnology, Uppsala University	1990
M.Sc.	Zoology - University of Maine	1985
B.Sc.	Fisheries - Humboldt State University	1983

PROFESSIONAL HISTORY

Professor, Department of Civil & Environmental Engineering, University of Washington, Seattle, 2008-present.

Associate Professor, Department of Civil & Environmental Engineering, University of Washington, Seattle, 2001-2008.

Assistant Professor, Department of Civil & Environmental Engineering, University of Washington, Seattle, 1997-2001.

Research Associate, Department of Environmental Science & Policy, University of California, Davis, 1994-1997.

Postdoctoral Fellow, Department of Environmental Science & Policy, University of California, Davis, 1991-1994.

REFEREED JOURNAL PUBLICATIONS (bold** indicates this author was Dr. Brett's graduate student; * indicates Dr. Brett was the corresponding or senior author)**

90. **Fan, L.**, M.T. Brett*, W. Jiang, **B. Li.** 2017. Dissolved organic nitrogen recalcitrance and bioavailable nitrogen quantification for effluents from advanced nitrogen removal wastewater treatment facilities. Environmental Pollution (in press).

89. Guo, F., S.E. Bunn, M.T. Brett, M.J. Kainz. 2017. Polyunsaturated fatty acids in stream food webs – high dissimilarity among producers and consumers. *Freshwater Biology* (in press).
88. Brett, M.T.*, Bunn, S.E., Chandra, S., Galloway, A.W., Guo, F., Kainz, M.J., Kankaala, P., Lau, D.C., Moulton, T.P., Power, M.E., Rasmussen, J.B., Taipale S.J., Thorp J.H., Wehr J.D. 2017. How important are terrestrial organic carbon inputs for secondary production in freshwater ecosystems? *Freshwater Biology*. 62: 833-853.
87. Huete-Pérez, J.A., Ortega-Hegg, M., Urquhart, G.R., Covich, A.P., Vammen, K., Rittmann, B.E., Miranda, J.C., Espinoza-Corriols, S., Acevedo, A., Acosta, M.L. and Gómez, J.P., M.T. Brett, M. Hanemann, A. Härer, J. Incer-Barquero, F.J. Joyce, J.W. Lauer, J.M. Maes, M.B. Tomson, A. Meyer, S. Montenegro-Guillén, W.L. Whitlow, J.L. Schnoor, and P.J.J. Alvarez. 2016. Critical Uncertainties and gaps in the environmental-and social-impact assessment of the proposed interoceanic canal through Nicaragua. *BioScience* 66: 632-645.
86. Smits, A.P., Schindler, D.E., Armstrong, J.B., Brett, M.T., Carter, J.L. and Santos, B.S. 2016. Thermal constraints on stream consumer responses to a marine resource subsidy. *Canadian Journal of Fisheries and Aquatic Sciences* 73: 1661-1671.
85. Brett, M.T.* and Arhonditsis, G.B. 2016. Modeling the dissolved oxygen response to phosphorus inputs in Lake Spokane: the fallacy of using complex over-parameterized models as the basis for TMDL decisions. *Lake and Reservoir Management* 32: 280-287.
84. Brett, M.T.*, M.E. Eisenlord, and A.W.E. Galloway. 2016. Different biomarker approaches give different answers for resource utilization in a marine isopod. *Ecosphere* 7(8):e01440. 10.1002/ecs2.1440.
83. Taipale, S., Vuorio, K., Brett, M.T., Peltomaa, E., **Hiltunen, M.**, and Kankaala, P. 2016. Lake zooplankton $\delta^{13}\text{C}$ values are strongly correlated with the $\delta^{13}\text{C}$ values of distinct phytoplankton taxa. *Ecosphere* 7(8):e01392. 10.1002/ecs2.1392.
82. Brett*, M.T., **S.K. Ahopelto, H.K. Brown, B.E. Brynestad, T.W. Butcher, E.E. Coba, C.A. Curtis, J.T. Dara, K.B. Doeden, K.R. Evans, L. Fan, J.D. Finley, N.J. Garguilo, S.M. Gebreyesus, Marissa K. Goodman, Kenneth W. Gray, Crystal Grinnell, Kathryn L. Gross, B.R.E. Hite, A.J. Jones, P.T. Kenyon, A.M. Klock, R.E. Koshy, A.M. Lawler, M. Lu, L. Martinkosky, J.R. Miller-Schulze, Q.T.N. Nguyen, E.R. Runde, J.M. Stultz, S. Wang, F.P. White, C.H. Wilson, A.S. Wong, S.Y. Wu, P.G. Wurden, T. R. Young**, and G.B. Arhonditsis. 2016. The modeled and observed response of Lake Spokane hypolimnetic dissolved oxygen concentrations to phosphorus inputs. *Lake and Reservoir Management* 32: 243-255.
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80. Taipale, S.J., E. Peltomaa, **M. Hiltunen**, R.I. Jones, M. Hahn, C. Biasi and M.T. Brett. 2015. Inferring phytoplankton, terrestrial plant and bacteria bulk $\delta^{13}\text{C}$ values from compound specific analyses of lipids and fatty acids. *PLoS ONE* 10: e0133974.
79. **Strandberg, U., M. Hiltunen**, E. Jelkänen, S.J. Taipale, M.J. Kainz, M.T. Brett, and P. Kankaala. 2015. Selective transfer of polyunsaturated fatty acids from phytoplankton to planktivorous fish in large boreal lakes. *Science of the Total Environment* 536: 858-865.
78. Galloway, A.W.E., M.T. Brett*, G.W. Holtgrieve, E.J. Ward, **A.P. Ballantyne**, C.W. Burns, M.J. Kainz, D.C. Müller-Navarra, **J. Persson, J.L. Ravet, U. Strandberg**, S.J. Taipale, and G. Alhgren. 2015. A Fatty Acid Based Bayesian Approach for Inferring Diet in Aquatic Consumers. *PLoS ONE* 10: e0129723.
77. Smits, A.P., D.E. Schindler and M.T. Brett. 2015. Geomorphology controls the trophic base of stream food webs in a boreal watershed. *Ecology* 96: 1775-1782.

76. Taipale, S.J., M.J. Kainz, M.T. Brett*. 2015. A low ω -3: ω -6 ratio in *Daphnia* indicates terrestrial resource utilization and poor nutritional condition. *Journal of Plankton Research* 37: 596-610.
75. Huete-Pérez, J.A., P.J.J. Alvarez, J.L. Schnoor, B.E. Rittmann, A. Clayton, M.L. Acosta, C.E.M. Bicudo, M.T.K. Arroyo, M.T. Brett, V.M. Campos, H. Chaimovich, B. Jimenez-Cisneros, A. Covich, L.D. Lacerda, J.-M. Maes, J.C. Miranda, S. Montenegro-Guillén, M. Ortega-Hegg, G.R. Urquhart, K. Vammen, and L. Zambrano. 2015. Scientists Raise Alarms About Fast Tracking of Transoceanic Canal through Nicaragua. *Environmental Science & Technology* 49: 3989-3996.
74. **Li, B.**, and M.T. Brett*. 2015. The relationship between operational and bioavailable phosphorus fractions in effluents from advanced nutrient removal systems. *International Journal of Environmental Science and Technology* 1-12.
73. **Strandberg, U.**, S.J. Taipale, **M. Hiltunen**, A.W.E. Galloway, M.T. Brett, and P. Kankaala. 2015. Inferring phytoplankton community composition with a fatty acid mixing model. *Ecosphere* (art16).
72. Brett*, M.T. 2014. Resource polygon geometry predicts Bayesian stable isotope mixing model bias. *Marine Ecology Progress Series* 514, 1-12.
71. Galloway, A.W.E., M.E. Eisenlord, M.N. Dethier, G.W. Holtgrieve, M.T. Brett. 2014. Quantitative estimates of resource utilization by an herbivorous isopod using a Bayesian fatty acid mixing model. *Marine Ecology Progress Series* 507: 219-232.
70. Galloway, A.W.E., S.J. Taipale, **M. Hiltunen**, E. Peltomaa, **U. Strandberg**, M.T. Brett, and P. Kankaala 2014. Diet specific biomarkers show that high quality phytoplankton fuel herbivorous zooplankton in large boreal lakes. *Freshwater Biology* 59: 1902-1915.
69. Brett*, M.T. 2014. Are phytoplankton in northern Swedish lakes extremely ^{13}C depleted? (comment to Karlsson et al. 2012). *Limnology and Oceanography* 59: 1795-1799.
68. **Strandberg, U.**, Taipale, S.J., Kainz, M.J., & Brett, M.T.* 2014. Retroconversion of docosapentaenoic acid (n-6): an alternative pathway for biosynthesis of arachidonic acid in *Daphnia magna*. *Lipids* 49:591-595.
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66. Taipale, S.J., **Strandberg, U.**, Peltomaa, E., Galloway, A.W., Ojala, A., & Brett, M.T. 2013. Fatty acid composition as biomarkers of freshwater microalgae: analysis of 37 strains of microalgae in 22 genera and in seven classes. *Aquatic Microbial Ecology* 71: 165-178.
65. **Li, B.**, M.T. Brett*. 2013. The influence of dissolved phosphorus molecular form on recalcitrance and bioavailability. *Environmental Pollution* 182: 37-44.
64. Perhar, G., G.B. Arhonditsis, and M.T. Brett. 2013. Modeling zooplankton growth in Lake Washington: A mechanistic approach to physiology in a eutrophication model. *Ecological Modelling* 258: 101-121.
63. Perhar, G., G.B. Arhonditsis, and M.T. Brett. 2013. Modelling the role of highly unsaturated fatty acids in planktonic food web processes: Sensitivity analysis and examination of contemporary hypotheses. *Ecological Informatics* 13: 77-98.
62. **Ravet, J.L., J. Persson**, and M.T. Brett*. 2012. Threshold dietary polyunsaturated fatty acid concentrations for *Daphnia pulex* growth and reproduction. *Inland Waters* 2: 199-209.
61. Taipale, S.J., M.T. Brett, K. Pulkkinen, M.J. Kainz. 2012. The influence of bacteria-dominated diets on *Daphnia magna* somatic growth, reproduction, and lipid composition. *FEMS Microbiology Ecology* 82: 50-62.

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59. Brett*, M.T., G.B. Arhonditsis, S. Chandra, and M.J. Kainz. 2012. Mass flux calculations show strong allochthonous support of freshwater zooplankton production is unlikely. *PLoS ONE* 7: Article Number: e39508.
58. **Li, B.**, M.T. Brett*. 2012. The impact of alum based advanced nutrient removal processes on phosphorus bioavailability. *Water Research* 46: 837-844.
57. Perhar, G., G.B. Arhonditsis, and M.T. Brett, 2012. Modelling the role of highly unsaturated fatty acids in planktonic food web processes: a mechanistic approach. *Environmental Reviews* 20: 155-172.
56. Taipale, S.J., M.J. Kainz, and M.T. Brett*. 2011. Diet-switching experiments show rapid accumulation and preferential retention of highly unsaturated fatty acids in *Daphnia*. *Oikos* 120: 1674-1682.
55. Maranto, C., J.K. Parrish, D.P. Herman, A.E. Punt, J.D. Olden, M.T. Brett, D. Roby. 2011. The use of fatty acid analysis to determine species dispersal: Caspian terns in the Columbia River basin. *Conservation Biology* 25: 736-746.
54. Burns, C.W., M.T. Brett, and M. Schallenberg. 2011. A comparison of the trophic transfer of fatty acids in freshwater plankton by cladocerans and calanoid copepods. *Freshwater Biology* 56: 889-903.
53. **Steinberg, P.D.**, M.T. Brett*, J.S. Bechtold, J.E. Richey, L.E. Porensky, and **S.N. Osborne**. 2011. The influence of watershed characteristics on nitrogen export to and marine fate in Hood Canal, Washington, USA. *Biogeochemistry* 106: 415-433.
52. **Ravet, J.L.**, M.T. Brett*, and G.B. Arhonditsis. 2010. The effects of seston lipids on zooplankton fatty acid composition in Lake Washington. *Ecology* 91: 180-190.
51. Brett*, M.T. 2010. Is a low EPA growth saturation threshold supported by the data presented in Becker and Boersma (2005)? *Limnology and Oceanography* 55: 455-458.
50. Cheng, V., G.B. Arhonditsis, and M.T. Brett. 2010. A reevaluation of lake-phosphorus loading models using a Bayesian hierarchical framework. *Ecological Research* 25: 59-76.
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48. **Dugopolski, R.A.**, E. Rydin, and M.T. Brett*. 2008. Short-term effects of a buffered aluminum sulfate treatment on Green Lake sediment phosphorus speciation. *Lake and Reservoir Management* 24: 181-189.
47. Brett*, M.T. and M.M. Benjamin. 2008. A reassessment of lake phosphorus retention and the nutrient loading concept in limnology. *Freshwater Biology* 53: 194-211.
46. **Persson, J.**, M.T. Brett*, T. Vrede, and **J.L. Ravet**. 2007. Food quantity and quality regulation of trophic transfer between primary producers and a keystone grazer (*Daphnia*) in pelagic freshwater food webs. *Oikos* 116: 1152-1163.
45. **Dainelsdottir, M.**, M.T. Brett*, and G.B. Arhonditsis. 2007. Phytoplankton food quality control of planktonic food web processes. *Hydrobiologia* 589: 29-41.
44. **Ravet, J.L.**, and M.T. Brett*. 2006. Phytoplankton essential fatty acid and phosphorus content constraints on *Daphnia* somatic growth and reproduction. *Limnology and Oceanography* 51: 2438-2452.

43. Brett*, M.T., D.C. Müller-Navarra, **A.P. Ballantyne**, **J.L. Ravet** and C.R. Goldman. 2006. *Daphnia* fatty acid composition reflects that of their diet. *Limnology and Oceanography* 51: 2428-2437.
42. **Ellison, M.E.**, and M.T. Brett*. 2006. Particulate phosphorus bioavailability as a function of stream flow and land cover. *Water Research* 40: 1258-1268.
41. Arhonditsis, G.B. and M.T. Brett*. 2005. Eutrophication model for Lake Washington (USA), Part I-Model description and sensitivity analysis. *Ecological Modelling* 187: 140-178.
40. Arhonditsis, G.B. and M.T. Brett*. 2005. Eutrophication model for Lake Washington (USA), Part II-Model calibration and validation. *Ecological Modelling* 187: 179-200.
39. Brett*, M.T., G.B. Arhonditsis, **S.E. Mueller**, D.M. Hartley, J.D. Frodge, and D.E. Funke. 2005. Non-point source nutrient impacts on stream nutrient and sediment concentrations along a forest to urban gradient. *Environmental Management* 35: 330-342.
38. Brett*, M.T., **S.E., Mueller**, and G.B. Arhonditsis. 2005. A daily time series analysis of stream water phosphorus transport along an urban to forest gradient in the Seattle area. *Environmental Management* 35: 56-71.
37. Arhonditsis, G.B., Winder, M., Brett, M.T. and Schindler, D.E. 2004. Patterns and mechanisms of phytoplankton variability in Lake Washington (USA). *Water Research* 38: 4013-4027.
36. **Nickel, D.K.**, M.T. Brett*, and A.D. Jassby. 2004. Factors Regulating Shasta Lake (California) Cold Water Accumulation, a Resource for Endangered Salmon Conservation. *Water Resources Research* 40: W05204, doi:10.1029/2003WR002669.
35. Arhonditsis, G.B., and M.T. Brett*. 2004. Evaluation of the current state of mechanistic aquatic biogeochemical modeling. Where are we? *Marine Ecology Progress Series* 271: 13-26.
34. Park, S.-K., M.T. Brett, Müller-Solger, A., and C.R. Goldman. 2004. Climatic forcing and primary productivity in a subalpine lake: interannual variability as a natural experiment. *Limnology and Oceanography* 49: 614-619.
33. Brett*, M.T. 2004. When is a correlation between ratios “spurious”? *Oikos* 105: 647-656.
32. Müller-Navarra, D.C., M.T. Brett, S.-K. Park, S. Chandra, **A.P. Ballantyne**, E. Zorita, and C.R. Goldman. 2004. Unsaturated fatty acid content in seston and tropho-dynamic coupling in lakes. *Nature* 427: 69-72.
31. Arhonditsis, G.B., M.T. Brett*, C.L. DeGasperi and D.E. Schindler. 2004. Effects of climatic variability on the thermal properties of Lake Washington (USA). *Limnology and Oceanography* 49: 256-270.
30. Park, S.-K., M.T. Brett, D.C. Müller-Navarra, S.-C. Shin, A.M. Liston and C.R. Goldman. 2003. Heterotrophic nanoflagellates enhance the food quality of decaying *Microcystis* by upgrading essential fatty acids. *Aquatic Microbial Ecology* 33: 201-205.
29. **Ravet, J.L.**, M.T. Brett*, D.C. Müller-Navarra. 2003. A test of the role of polyunsaturated fatty acids in phytoplankton food quality for *Daphnia* using liposome supplementation. *Limnology and Oceanography* 48: 1938-1947.
28. Arhonditsis, G.B., M.T. Brett*, and J.D. Frodge. 2003. Environmental control and limnological impacts of a large recurrent spring bloom in Lake Washington, USA. *Environmental Management* 31: 603-618.
27. Park, S.-K., M.T. Brett, E. T. Oshel and C.R. Goldman. 2003. Seston food quality and *Daphnia* production efficiencies in an oligo-mesotrophic subalpine lake. *Aquatic Ecology* 37: 123-136.
26. **Ballantyne, A.P.**, M.T. Brett*, and D.E. Schindler. 2003. The importance of dietary phosphorus and highly unsaturated fatty acids for sockeye (*Oncorhynchus nerka*) growth in Lake Washington- a bioenergetics approach. *Canadian Journal of Fisheries and Aquatic Science* 60: 12-22.

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24. Higley, H.J. Carrick, M.T. Brett, C. Luecke, C.R. Goldman. 2001. The effects of ultraviolet radiation and nutrient additions on periphyton biomass and composition in a sub-alpine lake (Castle Lake, USA). *Internat. Rev. Hydrobiol.* 86: 147-163.
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22. Müller-Navarra, D.C., M.T. Brett, A. Liston and C.R. Goldman. 2000. A highly-unsaturated fatty acid predicts biomass transfer between primary producers and consumers. *Nature* 403: 74-77.
21. Brett*, M.T., F.S. Lubnow, M. Villar-Argaiz, C.R. Goldman and A. Müller-Solger. 1999. Nutrient control of bacterioplankton and phytoplankton dynamics. *Aquatic Ecology* 33: 135-145.
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19. Brett*, M.T., and C.R. Goldman. 1997. Consumer versus resource control in freshwater pelagic food-webs. *Science* 275: 384-386.
18. Brett*, M.T., and D.C. Müller-Navarra. 1997. The role of highly unsaturated fatty acids in aquatic food web processes. *Freshwater Biology* 38: 483-499.
17. Turek, S. and M.T. Brett. 1997. Comment: Trout mortality from baited barbed and barbless hooks (and reply). *North American Journal of Fisheries Management* 17: 807.
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7. Brett*, M.T., L. Martin, and T.J. Kawecki. 1992. An experimental test of the egg-ratio method: estimated versus observed death rates. *Freshwater Biology* 28: 237-248.

6. Brett*, M.T. 1992. *Chaoborus* and fish mediated influences on *Daphnia longispina* population structure, dynamics, and life history strategies. *Oecologia* 89: 69-77.
5. Lundstedt, L., and M.T. Brett*. 1991. Differential growth rates of three cladoceran species in response to mono- and mixed-algal diets. *Limnology and Oceanography* 36: 159-165.
4. Ahlgren, G., L. Lundstedt, M. Brett, and C. Forsberg. 1990. Lipid composition and food quality of some freshwater phytoplankton for cladoceran zooplankters. *Journal of Plankton Research* 12: 809-818.
3. Brett*, M.T. 1989. Zooplankton communities and acidification processes - A review. *Water, Air, and Soil Pollution* 44: 387-414.
2. Brett*, M.T. 1989. The distribution of free-swimming macroinvertebrates in acidic lakes of Maine: the role of fish predation. *Aqua Fennica* 19: 113-118.
1. Brett*, M.T. 1989. The rotifer communities of acid-stressed lakes of Maine. *Hydrobiologia* 186/187: 181-190.

BOOKS AND BOOK CHAPTERS

Arts, M.T., M.T. Brett, and M. Kainz. 2009. *Lipids in Aquatic Ecosystems*. Springer, New York.

Brett*, M.T., D.C. Müller-Navarra. and **J. Persson**. 2009. Crustacean Zooplankton Fatty Acid Composition. Pages 115-146 in Chapter 6 in M.T. Arts, M.T. Brett, and M. Kainz, editors. *Lipids in Aquatic Ecosystems*. Springer, New York.

NON-REFEREED PUBLICATIONS

Jones, J., and M.T. Brett. 2014. *Lake Nutrients, Eutrophication, and Climate Change*. Global Environmental Change. Springer Netherlands, 2014. 273-279.

Voqui, T.-A., and M.T. Brett 2013. An analysis and summary of disinfection methods to prevent the spread of aquatic invasive species in Washington. *Waterline - A publication of the Washington State Lake Protection Association*.

Brett, M.T. 2010. Book Review of "The biogeochemistry of Mirror Lake and its watershed. By T.C. Winter and G.E. Likens, eds. 2009." *Ecology* 91: 3120-3121

Brett, M.T., L. Brouwer, and L.A. Brett. 1999. Research productivity and reputational ratings at US Ecology, Evolution and Behavior Programs. *Bulletin of Ecological Society of America* 80: 250-256.

Brett, M.T. 1997. Meta-analysis in ecology. *Bulletin of the Ecological Society of America* 78: 92-94.

SPONSORED RESEARCH

USFWS Upper Klamath Lake Recovery Implementation Team (RIT), *Quantitative diet reconstruction of the food webs supporting juvenile suckers in the Upper Klamath Basin using fatty acid based mixing models*, Mar 2017 to Feb 2019, Brett (PI), Aaron Galloway (co-PI).

Long Live the Kings, *Quantifying juvenile salmon prey quality and exploring trophic linkages in Puget Sound*, Mar 2017 to Dec 2018, Julie Keister (PI), Brett (co-PI).

Aspect Consulting, LLC, *Lake Tapps Water Quality Monitoring*. Feb 2017 to Feb 2018, Brett (sole PI).

Aquatic Ecosystem Sciences LLC/Bureau of Indian Affairs. *A statistical analyses of the Upper Klamath Lake Plankton, Limnological, Climate, and Hydrology Database*. Aug 2016 to Oct 2017, Brett (sole PI)

Hood Canal Salmon Enhancement Group/US EPA. *Hood Canal Onsite Septic System Nutrient Reduction*. Nov 2014 to June 2017, HCSEG (PI), Brett (co-PI).

King County Wastewater Treatment Division, *CSO Water Quality Assessment and Monitoring Study*. Sept 2014 to Jun 2017, Brett (sole PI).

Inland Empire Paper Company. *A test the hypothesis that the recalcitrant dissolved P fraction in Inland Empire Paper effluents is primarily Humic-metal complexed P*. Sept. 2012, to Aug. 2014, Brett (sole PI).

Spokane region water treatment plants and the Water Environment Research Foundation, Phase II Bioavailable Phosphorus Study ; Sept. 2012, to Sept. 2013 (0.5 mon/yr committed) Brett (sole PI)

Washington Department of Health (US EPA,) On-Site Sewage Denitrification Project.,; 9/15/2011 – 8/31/2013. Stensel (PI), Brett (co-PI).

Water Environment Research Foundation, Bioavailable Phosphorus (BAP) Fraction in BNR Effluent, Jan. 1, 2011 to June 15, 2012. (sole PI)

WA Dept. of Ecology/Spokane County, Phosphorus bioavailability of point source discharges to the Spokane River and Long Lake, July 30, 2009 to Dec. 31, 2010. (sole PI)

Puget Sound Partnership, Scientific synthesis of bio-physical indicators of Puget Sound Health, Sept. 30, 2009 to June 30, 2010; Dr. Brett was a co-PI on this with Daniel Schindler of Fisheries (50%)

Puget Sound Action Team, Migration of nitrogen from onsite sewage systems, June 1, 2007 to June 30, 2008; Dr. Brett was the PI, Benjamin was the co-PI. (50%)

National Science Foundation, A test of freshwater zooplankton essential fatty acid bioconversion potential and demographic costs at the planktonic plant-animal interface, Jan. 16, 2007 to Jan. 13, 2010. Dr. Brett was the PI, Kainz was an unfunded co-PI (as a member of a faculty in Austria, he was not eligible for NSF funding). (100%)

Puget Sound Action Team, Migration of nitrogen from onsite sewage systems, June 1, 2006 to June 30, 2007, Dr. Brett was the PI, Benjamin and Stensel were co-PIs. (60%)

- City of Everett*, *Holopedium gibberum* diel vertical migrate (DVM) patterns and filter clogging at the City of Everett Water Filtration Plant, May 1, 2006 to Dec. 31, 2006. (sole PI). (100%)
- National Science Foundation*, IGERT: Multinational collaboration on challenges to the environment, Jan. 1, 2004 to Dec. 31, 2008. Gretchen Kalonji was the PI; Dr. Brett was one of 5 co-PIs. (10%)
- City of Everett*, A study of how plankton seasonal and depth distribution relates to clogging events at the City of Everett drinking water treatment plant, Jan. 12, 2004 to Dec. 31, 2005. (sole PI). (100%).
- King County Water and Land Resources*, developing a sediment quality triad (SQT) analysis of data from Lake Union, Lake Washington and Lake Sammamish, Oct. 1, 2000 to Sept. 30, 2003. (sole PI) (100%)
- King County Water and Land Resources*, Mechanistic phytoplankton modeling of Lakes Washington and Sammamish, Oct. 1, 2000 to Sept. 30, 2003. (sole PI) (100%)
- Washington State Department of Ecology*, Assessing the relationship between point and non-point source nutrient loading and diurnal pH fluctuations in the White River, WA, Oct. 1, 2000 to Sept. 30, 2001. (sole PI) (100%)
- National Science Foundation*, The role of fatty acids and limiting elements in biogeochemical cycling and food web dynamics, Aug. 15, 2000 to Aug. 14, 2003. Dr. Brett was the PI; Goldman and Müller-Navarra of UC Davis were co-PIs. (50%)
- King County Water and Land Resources*, Developing a time series model to predict stream phosphorus export as a function of sub-watershed land use, April 15, 2000 to Oct. 14, 2001. (sole PI) (100%).
- The University of Washington Royalty Fund*, A novel direct test of the HUFA limitation hypothesis for aquatic herbivore production, April 15, 2000 to April 14, 2001. (sole PI) (100%).
- National Science Foundation*, A New Undergraduate Program in Freshwater Sciences, 1999-08-15 to 2001-12-31 Co PI with R Naiman (PI), T Quinn, DE Schindler, F Taub (20%).
- US Bureau of Reclamation*, A proposal to develop a long-term time series model of cold water accumulation in Shasta Lake, Nov. 15, 1999 to Dec. 31, 2000. (sole PI) (100%).
- City of Stanwood*, Determining the Nutrient removal efficiency of the City of Stanwood constructed wetland for sewage lagoon effluent, April 15, 1998 to Aug. 31, 2000. (sole PI)(100%).
- National Science Foundation*, Highly unsaturated fatty acids: The missing link in aquatic food webs? DEB-9615888, Feb. 1, 1997 to Jan. 31, 2000. (80% effort, this refers to Dr. Brett's

relative effort in proposal preparation).

National Science Foundation, Assessing effects of food web structure on patterns of productivity and trophic transfer in lake food webs, DEB-9520214, Oct. 1, 1995 to Sept. 30, 1997. (40%).

National Science Foundation, Interannual variability, food-web interactions and climatic forcing at Castle Lake, DEB-9420037, Feb. 1, 1995 to Jan 31, 2000. (90% effort).

National Science Foundation, (90% effort), Equipment Supplement to Castle Lake Project, Feb. 1 1993. (90% effort).

US Bureau of Reclamation, A Limnological Investigation of Temperature Control Devices Impact on the Limnology of Whiskeytown Reservoir. (90% effort).

US Bureau of Reclamation, A Limnological Investigation of Temperature Control Devices Impact on the Limnology of Shasta Lake - Sample and Data Analyses. (50% effort).

McConnell Foundation, Environmental Center at Castle Lake. (90% effort).

California Department of Fish and Game, A limnological investigation of the 1991 Cantara Spill's impact on Shasta Lake. (90% effort).

California Department of Fish and Game, An investigation of the 1991 Cantara Spill's impact on the crayfish population of the upper Sacramento River, California. (90% effort).

PROJECT REPORTS (REPORTS TO SPONSORS)

Li, B., Fan, L., Brett, M.T. and NUTR1R06p, W.E.R.F., 2014. Mineralization Kinetics Of Soluble Phosphorus And Soluble Organic Nitrogen In Advanced Nutrient Removal Effluents. *Water Management*, 15, p.10. Prepared for the Water Environment Research Foundation (WERF).

Li, B. and Brett, M.T., 2011. Spokane Regional Wastewater Phosphorus Bio-Availability Study. WERF Nutrient Removal Challenge project NUTR4C09. Prepared for the Water Environment Research Foundation (WERF).

Li, B., M.T. Brett. 2011. Spokane regional wastewater Phosphorus Bio-availability Study Final Report. Prepared for the Washington State Department of Ecology and Spokane County.

Atieh, B.G., J.D. Horowitz, G.R. Leque, M.M Benjamin and M.T. Brett. 2008. Hood Canal Onsite Sewage System Nitrogen Loading Project: Year 2 Final Report. Report to the Puget Sound Partnership

Julie Horowitz, J., B. Atieh, G. Leque, M.M. Benjamin, and M.T. Brett. 2007. Hood Canal Onsite Septic System Nitrogen Loading Project: Phase I Final Report. Prepared for the Puget Sound Partnership.

Brett, M.T, C. Sarsfield, J. DeStaso, S. Duffy, and A. C. Heyvaert. 1998. Physical Forcing of

Phytoplankton Bloom Dynamics in Shasta Lake, California: A Progress Report on the Study of Limnological Effects Following Installation of a Temperature Control Device. Report to the US Bureau of Reclamation.

Brett, M.T., and J.E. Reuter. 1997. An Analysis of the Pyramid Lake Lahontan Cutthroat Trout Nose-Tag Data Base. Report to Pyramid Lake Fisheries, Pyramid Lake Paiute Tribe.

Brett, M.T., C.R. Goldman, and S. Ayers. 1994. A limnological investigation of Whiskeytown Reservoir: potential impacts of temperature control curtains. Report to the US Bureau of Reclamation.

Brett, M.T., and C.R. Goldman. 1994. Crayfish population size and recolonization potential in the upper Sacramento River following the Cantara Vapam[®] spill, Report of 1993 field sampling. Report to the California Department of Fish and Game.

Brett, M.T., and C.R. Goldman. 1993. Crayfish population size and recolonization potential in the upper Sacramento River following the Cantara Vapam[®] spill. Report to the California Department of Fish and Game.

Brett, M.T., C.R. Goldman, and F.S. Lubnow. 1992. Effects of the Cantara Vapam[®] spill on the planktonic ecosystem of Shasta Lake. Report to the California Department of Fish and Game.

OTHER RESEARCH-RELATED ACTIVITIES

Brett, M.T. 1998. Angling Mortality, Special Regulations and the Secret to Maintaining Quality Fisheries. *Fly Fisherman*, page 18-30, Feb. 1998 issue.

Brett, M.T. 1995. Castle Lake has record clarity. *Mt. Shasta Herald*. July 19, 1995.

Brett, M.T. 1994. Ongoing study keeps track of health of Castle Lake. *The Dunsmuir News*. Nov. 9, 1994.

Brett, M.T., et al. 1994. Cui-ui and ignorance. *California Flyfisher* July-August: 48-50. An article on a conflict over conserving an endangered nongame fish versus preserving a sport fishery.

Brett, M.T., et al. 1993 Welcome to Castle Lake. Interpretive brochure describing the natural history, aquatic ecology, and ongoing limnological research at Castle Lake, site of the University of California, Davis Limnological Research Station.

PAST AND PRESENT PROFESSIONAL SOCIETY MEMBERSHIP

American Society of Limnology and Oceanography
International Society of Limnology
Washington State Lake Protection Association
North American Lake Management Society

REVIEWS COMPLETED

Dr. Brett typically reviews between 10 to 20 manuscripts and 5 to 10 proposals per year. He has reviewed papers for:

Ambio, American Naturalist, Aquatic Ecology, Aquatic Microbial Ecology, Aquatic Sciences, Archiv für Hydrobiologie, Biogeochemistry, Canadian Journal of Fisheries and Aquatic Sciences, Ecological Applications, Ecological Research, Ecology, Ecology Letters, Ecology of Freshwater Fish, Ecosphere, Environmental Microbiology, Environmental Pollution, Environmental Science & Technology, Fisheries, Freshwater Biology, Hydrobiologia, International Association of Theoretical and Applied Limnology, International Review of Hydrobiology, Journal of Environmental Quality, Journal of Fish Biology, Journal of Great Lakes Research, Journal of Lake and Reservoir Management, Journal of the American Water Resources Association, Journal of the North American Benthological Society, Journal of Plankton Research, Journal of Phycology, Journal of Theoretical Biology, Lake and Reservoir Management, Limnology and Oceanography, Marine Biology, Marine and Freshwater Research, Marine Ecology Progress Series, Nature, North American Journal of Fisheries Management, Oecologia, Oikos, Polish Journal of Environmental Studies, Review of San Francisco Estuary and Watershed Science, Science, Transactions of the American Fisheries Society, Water Research, Water Resources Research

Dr. Brett has reviewed proposals for:

National Science Foundation, Swiss National Science Foundation, Natural Environmental Research Council (UK), National Research Council, Vermont Sea Grant, Maryland Sea Grant, UW Royalty Research Fund, National Oceanic & Atmospheric Administration, Ohio Sea Grant, Natural Sciences and Engineering Research Council of Canada, Earthwatch, Hudson River Foundation, Marsden Fund of New Zealand, UW Royalty Research Fund

AWARDS AND HONORS

Editor's citation, Outstanding Reviewer for Limnology and Oceanography, 2011

Outstanding Mentor award from Civil and Environmental Engineering undergraduates, June, 2010.

Awarded the John R. Kiely Endowed Professorship in Civil Engineering for the period from September 16, 2006 to September 15, 2011.

Selected to be the University of Washington representative to the 2000 Association of Pacific Rim Universities faculty conference held Aug. 5-19, 2000, at UW and Chulalongkorn University, Bangkok Thailand.

Fulbright Graduate Student Fellowship, carried out at the Institute of Limnology, Uppsala University, September 1985-December 1986.

COURSES TAUGHT AT THE UNIVERSITY OF WASHINGTON, 1998-2017

Environmental Engineering
Applied Limnology
Lake and Watershed Management
Environmental Process and Flows
Environmental Pollution
Ad. Topics, Lakes & Streams

PROFESSIONAL SERVICE

November 2015, Dr. Brett participated in the Second International Workshop on the Interoceanic Canal through Nicaragua. This workshop was sponsored by the Nicaraguan Academy of Sciences and was held in Managua, Nicaragua.

March 2015, Dr. Brett participated in the Nicaragua Canal Biodiversity and Water Workshop. This workshop was sponsored by Florida International University and was held in Miami, Florida. This workshop was funded by the international consulting firm Environmental Resources Management, with the objective being to provide ERM with critical feedback on the merits of their Environmental and Sociological Impact Assessment of the Nicaraguan Canal Project.

November 2014, Dr. Brett participated in the International Workshop to Identify Major Scientific and Technical Questions Associated with the Interoceanic Canal Project through Nicaragua. The workshop was sponsored by the Nicaraguan Academy of Sciences and was held in Managua, Nicaragua.

May 2014, Dr. Brett chaired a session titled "Biomarker research in aquatic food webs at times of global change - Constraints and opportunities" at the American Society of Limnology and Oceanography annual meeting in Portland, Oregon.

In June 2010, Dr. Brett chaired a special workshop at the American Society of Limnology and Oceanography annual meeting in Santa Fe, New Mexico. This workshop dealt with the importance of terrestrial inputs to invertebrate and fish production in aquatic ecosystems.

Dr. Brett was on the Organizing Committee for the American Society of Limnology and Oceanography's annual meeting held June 4-9, 2006 in Victoria, British Columbia, Canada.

Dr. Brett was on the Organizing Committee for the American Society of Limnology and Oceanography's annual meeting held Feb. 20-25th, 2005 in Salt Lake City, UT.

Dr. Brett was on the Organizing Committee for the American Society of Limnology and Oceanography's annual meeting held June 10-14, 2002 in Victoria, British Columbia, Canada.

Dr. Brett served as one of nine external reviewers of the National Academy of Sciences report titled "Scientific Evaluation of Biological Opinions on Endangered and Threatened Fishes in the Klamath River Basin: Interim Report (2002)" and related documents.

Dr. Brett was one of seven national panelists who externally reviewed the US EPA's Western Ecology Division, Corvallis, OR. Aug. 2001.

Dr. Brett served as the President of the Washington State Lake Protection Association during 2001, as the President-elect during 2000 and as a regular Board Member from 1997-1999.